

Perspectives

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Remembrance of Ching Chun Li, 1912–2003

Eliot B. Spiess¹

Department of Biological Science, University of Illinois, Chicago, Illinois 60607

A large number of friends, colleagues, and professional biologists owe their basic understanding of population genetics to Ching Chun Li, known to his friends as C. C. His remarkable facility for teaching what seemed to a young geneticist, as I was in 1952, a mathematical labyrinth helped inspire my beginning students as well as myself. Few had his gift of clear thinking and the ability to elucidate complex population genetics concepts. Over the years from 1952 to 1966, as a colleague at the University of Pittsburgh, I came to enjoy C. C.'s tutelage and friendship. His remarkable guidance gave me sufficient awareness of population genetics principles that could be applied to natural populations of organisms as well as to human populations such that I could organize my thoughts to write a basic textbook for my students, namely *Genes in Populations* (SPIESS 1977, 1989).

C. C.'s life was full of activity, not only in academia but also in social and governmental capacities. In 1982, he approached me to help in composing a biographical summary of his life. Even though he had written 10 books and more than 100 scientific articles, he felt inadequate in writing English prose and, in addition, he did not want to have an autobiographical sketch that might appear to be self-praising. My biographical article, based on facts supplied to me by C. C., was written following his seventieth birthday celebration in 1982 (SPIESS 1983). The birthday celebration also included a symposium in his honor, "Human Population Genetics," held in October 1982. The papers contributed in that symposium were compiled and edited by ARAVINDA CHAKRAVARTI (1984).

There have been several articles about C. C.'s personal life and his science, including the aforementioned one by me (SPIESS 1983). In addition there are articles by CHAKRAVARTI (2004) and MAJUMDER (2004). To avoid excess duplication, I have chosen here to write only a

very brief account of what seem to me to be some of the most salient points in his life.

At the age of 20, C. C. attended the University of Nanking, an American missionary school, where he enrolled in agriculture and genetics. Five years later, in 1937, he came to Cornell University's Department of Plant Breeding, so that he could continue genetics and biometry. His mentor during this period was Professor H. H. Love. At that time C. C. read the first edition of Dobzhansky's *Genetics and the Origin of Species* (DOBZHANSKY 1937). From this he was greatly impressed with population genetics and the work of Sewall Wright. After earning a Ph.D. in 1940 he spent a summer at the University of Chicago, where Wright was a member of the faculty. In the following months he spent some time at Columbia University and the University of North Carolina and then returned for more time in Chicago under the influence of Sewall Wright. During this time, he met Clara Lem, who had come from Wisconsin and was living at the International House of the University of Chicago. They were married in September 1941.

The newly married couple intended to honeymoon in Shanghai; however, their ship that sailed in October never reached Shanghai because of the Japanese invasion of mainland China. After meandering for some weeks, the ship finally docked in Hong Kong, but this was only the beginning of further nearly disastrous events. The Li's ran out of money and for some time lived on a near-starvation diet. Eventually, through the help of the Chinese underground, friends, and relatives, they managed to get past the Japanese to free China. This involved 38 days of walking, although the pregnant Clara sometimes was carried by sedan chair. By the spring of 1942, they were able to stay with C. C.'s brother in Kweilin, during which time Clara gave birth to their first child, a boy they named Jeff. C. C. then became a teacher at the Agricultural College of Kwangsi University.

While there, he made the helpful acquaintance of T. S. Hsu (a student of C. C. Tan) that became a lasting friendship. In the summer of 1943, they attempted to

¹Author e-mail: elspiess@aol.com



C. C. Li on the occasion of his seventieth birthday in 1982.

travel to Chungking to visit C. C.'s father. However, the bus trip was a disaster because their son contracted dysentery on the way and died in C. C.'s arms. Later, when the first edition of his book *Population Genetics* (LI 1948) appeared it was dedicated to the memory of Jeff. [The second edition (LI 1955) was also dedicated to Jeff.] Eventually, the couple reached Chungking safely and saw C. C.'s father. At this time, C. C. gained an appointment to the Agricultural College of the University of Nanking, which had moved to Chengtu. After the war, in 1945, Clara flew to Shanghai to meet C. C.'s mother. The University of Nanking moved back to its original location and C. C. Li moved with it. Following that move, he was given an appointment at Peking University to become Chairman of the Agronomy Department at age 34. It was here that he wrote the first edition of his book on population genetics.

Troubles were not over, however, because in 1949 the communist government was ushered into mainland China, and the Lysenko movement to expunge Mendelian genetics began. After considerable political harassment, C. C. realized that he must leave China. He and his family made their way to Hong Kong in 1950 and from there to Taipei, Taiwan. In 1950 C. C. published a letter in the *Journal of Heredity* (LI 1950) that prompted H. J. Muller of Indiana University to make a personal appeal for C. C. and his family to come to the United States. Muller saw to it that Li's name became known in American genetics circles, among other ways by arranging for a review of Li's book (CROW 1950). The Dean of the new Graduate School of Public Health at the University of Pittsburgh was looking for a geneticist to teach human genetics. Muller paved the way for C. C. to get the position. He was just what Pittsburgh was looking for and he was appointed a research Fellow in Biostatistics by Antonio Ciocco, a Nobel laureate. Muller stopped in Hong Kong in 1951 and rescued the Li family by having a special visa issued for them in April of that year. Thus C. C. Li became an American citizen and lived in Pittsburgh until his last day.

The details of C. C.'s life and work are fully covered in the references mentioned. Some achievements, however, are particularly noteworthy:

1. His service as a biostatistician in programming clinical trials for cancer chemotherapy involving veterans hospitals in the eastern United States was unprecedented. In the 1950s, large-scale clinical trials had no statistical design. C. C., sponsored by the National Institutes of Health, proposed randomized trials that played a vital role in changing the attitude of physicians toward large clinical trials.
2. In his presidential address to the American Society of Human Genetics in 1961, "The Diminishing Jaw of Civilized People," he disparaged popular notions about the nature of radioactive fallout, the decline of human intelligence, and deterioration of the human genetic endowment. He emphasized that facts must be established to prevent false claims from flourishing.
3. For the American Association for the Advancement of Science, he reviewed the activities in China in genetics and in animal and plant breeding. He and two Chinese colleagues wrote a letter to the *Journal of Science* (GUO *et al.* 1997) pointing out how genetics suffered in China and that "Chinese science has yet to demonstrate its capability to support and guide independent research," referring specifically to population genetics and genetic epidemiology.
4. In the years after the mid-1960s, C. C. made countless contributions to genetics (for example, linkage detection and consanguinity in human populations), statistics, and evolutionary population genetics. Most of these articles and books are listed in CHAKRAVARTI (1984).

One personal anecdote illustrates C. C.'s generosity and thoughtfulness. In 1965, he attended the Gregor Mendel centennial held in Brno, Czechoslovakia, where he purchased 100 Mendel postage stamps with the intent of giving them to his American friends as souvenirs. He put them "in a safe place" but could not find them on his return to Pittsburgh. In 1984, the centennial of Mendel's death, a good friend in Germany, Peter Meinecke, sent him 50 German stamps honoring Mendel. C. C. was kind enough to distribute those stamps to his genetics colleagues, including a few for me.

In later years, C. C. complained of his diminished vision, arthritis, and forgetfulness. Nevertheless, he remained generally active, being driven to his office each day and carrying on correspondence and discussions with colleagues. He was honored in 1998 by the American Society of Human Genetics with an "Award for Excellence in Education." The citation by Aravinda Chakravarti and C. C.'s acknowledgment address were published in the *American Journal of Human Genetics* (CHAKRAVARTI 1999; LI 1999).

C. C. Li died on the morning of October 21, 2003, just one week before his 91st birthday. His records and memories will be stored with the American Philosophical Society according to his wishes. For further details, see CHAKRAVARTI (2004).

LITERATURE CITED

- CHAKRAVARTI, A. (Editor), 1984 *Human Population Genetics*. Van Nostrand Reinhold, New York.
- CHAKRAVARTI, A., 1999 1998 ASHG award for excellence in education. Professor Ching Chun Li, courageous scholar and educator. *Am. J. Hum. Genet.* **64**: 14–15.
- CHAKRAVARTI, A., 2004 Ching Chun Li (1912–2003): a personal remembrance of a hero of genetics. *Am. J. Hum. Genet.* **74**: 789–792.
- CROW, J. F., 1950 An introduction to population genetics. *Am. J. Hum. Genet.* **2**: 279–280.
- DOBZHANSKY, T., 1937 *Genetics and the Origin of Species*. Columbia University Press, New York.
- GUO, S.-W., C.-J. ZHENG and C. C. LI, 1997 “Gene war of the century”? *Science* **278**: 1693–1697.
- LI, C. C., 1948 *An Introduction to Population Genetics*. National Peking University Press, Peking.
- LI, C. C., 1950 Genetics dies in China. *J. Hered.* **41**: 90.
- LI, C. C., 1955 *Population Genetics*. University of Chicago Press, Chicago.
- LI, C. C., 1999 1998 ASHG award for excellence in education. Remarks on receiving the ASHG award: science and science education. *Am. J. Hum. Genet.* **64**: 16–17.
- MAJUMDER, P. P., 2004 C. C. Li (1912–2003): his science and his spirit. *Genet. Epidemiol.* **26**: 81–87.
- SPIESS, E., 1977 *Genes in Populations*. John Wiley & Sons, New York.
- SPIESS, E., 1983 Ching Chun Li, courageous scholar of population genetics, human genetics, and biostatistics: a living history essay. *Am. J. Med. Genet.* **16**: 603–630.
- SPIESS, E., 1989 *Genes in Populations*, Ed. 2. John Wiley & Sons, New York.

